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What is claimed is:

1. A kit for simultaneously analyzing a set of loci of genomic DNA, comprising oligonucleotide primers for co-amplifying a set of loci of the genomic DNA to be analyzed, wherein the primers are in one or more containers, wherein the primers are designed to co-amplify a set of at least sixteen loci which can be co-amplified, comprising

D3S1358, HUMTH01, D21S11, D18S51, G475, Amelogenin, HUMvWFA31, D8S1179, HUMTPOX, HUMFIBRA, D5S818, D7S820, D13S317, D16S539, 10 HUMCSF1PO, and S159.

2. A kit for simultaneously analyzing a set of loci of genomic DNA, comprising oligonucleotide primers for co-amplifying a set of loci of the genomic DNA to be analyzed, wherein the primers are in one or more containers, wherein the primers are designed to co-amplify a set of at least sixteen loci which can be co-amplified, comprising D3S1358, HUMTH01, D21S11, D18S51, S159, Amelogenin, HUMvWFA31, D8S1179, HUMTPOX, HUMFIBRA, D5S818, D7S820, D13S317, D16S539, HUMCSF1PO, and C221. 15

3. The kit of claim **1**, wherein at least one oligonucleotide primer has a sequence selected from one of the groups of primer sequences consisting of:

SEQ ID NO:68, SEQ ID NO:69, and SEQ ID NO:106, for 25 the locus D3S1358;

SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:66, SEQ ID NO:67, and SEQ ID NO:103, for the locus HUMTH01; SEQ ID NO:64 and SEQ ID NO:65, for the locus 30 D21S11;

SEQ ID NO:62, SEQ ID NO:63, SEQ ID NO:101, and SEQ ID NO:102, for the locus D18S51;

SEQ ID NO:88, SEQ ID NO:89, and SEQ ID NO:94, for the locus G475;

SEQ ID NO:86, SEQ ID NO:87, and SEQ ID NO:105, for 35 the Amelogenin locus;

SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:59, SEQ ID NO:60, and SEQ ID NO:76, for the locus HUMvWFA31;

SEQ ID NO:74, SEQ ID NO:75, and SEQ ID NO:104, for 40 the locus D8S1179;

SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:72, and SEQ ID NO:73, for the locus HUMTPOX;

SEQ ID NO:70, SEQ ID NO:71, and SEQ ID NO:107, for 45 the locus HUMFIBRA;

SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:84, and SEQ ID NO:85, for the locus D5S818;

SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:80, and SEQ ID NO:81, for the locus D7S820;

SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:82, and SEQ ID NO:83, for the locus D13S317;

SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:58, SEQ ID NO:79, and SEQ ID NO:97, for the locus D16S539;

SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:77, SEQ ID NO:78, and SEQ ID NO:98, for the locus 55 HUMCSF1PO; and

SEQ ID NO:90, SEQ ID NO:91, SEQ ID NO:92, SEQ ID NO:93, SEQ ID NO:95, and SEQ ID NO:96, for the locus S159.

4. The kit of claim **2**, wherein at least one oligonucleotide primer has a sequence selected from one of the groups of primer sequences consisting of:

SEQ ID NO:68, SEQ ID NO:69, and SEQ ID NO:106, for 60 the locus D3S1358;

SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:66, SEQ ID NO:67, and SEQ ID NO:103, for the locus HUMTH01;

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SEQ ID NO:64 and SEQ ID NO:65, for the locus D21S11;

SEQ ID NO:62, SEQ ID NO:63, SEQ ID NO:101, and SEQ ID NO:102, for the locus D18S51;

SEQ ID NO:88, SEQ ID NO:89, and SEQ ID NO:94, for the locus S159;

SEQ ID NO:86, SEQ ID NO:87, and SEQ ID NO:105, for the Amelogenin locus;

SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:59, SEQ ID NO:60, and SEQ ID NO:76, for the locus HUMvWFA31;

SEQ ID NO:74, SEQ ID NO:75, and SEQ ID NO:104, for the locus D8S1179;

SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:72, and SEQ ID NO:73, for the locus HUMTPOX;

SEQ ID NO:70, SEQ ID NO:71, and SEQ ID NO:107, for the locus HUMFIBRA;

SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:84, and SEQ ID NO:85, for the locus D5S818;

SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:80, and SEQ ID NO:81, for the locus D7S820;

SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:82, and SEQ ID NO:83, for the locus D13S317;

SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:58, SEQ ID NO:79, and SEQ ID NO:97, for the locus D16S539;

SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:77, SEQ ID NO:78, and SEQ ID NO:98, for the locus HUMCSF1PO; and

SEQ ID NO:99 and SEQ ID NO:100, for the locus C221.

5. A kit for simultaneously analyzing a set of loci of genomic DNA, comprising oligonucleotide primers for co-amplifying a set of loci of the genomic DNA to be analyzed, wherein the primers are in one or more containers, wherein the primers are designed to co-amplify a set of loci from one or more DNA samples, comprising short tandem repeat loci D3S1358, D5S818, D7S820, D8S1179, D13S317, D16S539, D18S51, D21S11, HUMCSF1PO, HUMFIBRA, HUMTH01, HUMTPOX, HUMvWFA31, and a locus selected from the group consisting of G475, S159, C221, and Amelogenin. 40

6. The kit of claim **5**, wherein at least one oligonucleotide primer has a sequence selected from one of the groups of primer sequences consisting of:

SEQ ID NO:62, SEQ ID NO:63, SEQ ID NO:101, and SEQ ID NO:102, when one of the loci in the set is D18S51;

SEQ ID NO:64 and SEQ ID NO:65, for the locus D21S11;

SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:66, SEQ ID NO:67, and SEQ ID NO:103, for the locus HUMTH01;

SEQ ID NO:68, SEQ ID NO:69, and SEQ ID NO:106, for the locus D3S1358;

SEQ ID NO:70, SEQ ID NO:71, and SEQ ID NO:107, for the locus HUMFIBRA;

SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:72, and SEQ ID NO:73, for the locus HUMTPOX;

SEQ ID NO:74, SEQ ID NO:75, and SEQ ID NO:104, for the locus D8S1179;

SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:59, SEQ ID NO:60, and SEQ ID NO:76, for the locus HUMvWFA31;

SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:77, SEQ ID NO:78, and SEQ ID NO:98, for the locus HUMCSF1PO;